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ABSTRACT

The purpose of this research was to determine whether the use of multiple in-class student evaluations of instruction coupled with instructor consultations with students would subsequently alter end-of-term student evaluations of instructional performance. A nonequivalent control group design was used with 18 classes and approximately 400 students over a period of 2.5 years. Data obtained indicated that the use of multiple evaluations with student consultations resulted in end-of-term evaluations that were uniformly higher in all instructional areas rated. The average effect size associated with the treatment was substantial. These results suggest that multiple student evaluations and consultations throughout the term provide a very powerful means of increasing end-of-term evaluations of instruction. Appendix A contains the questionnaire for the classes, and Appendix B contains the College of Education questionnaire. (Contains 2 tables and 18 references.) (Author/SLD)

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ED 387 511

Running head: MONITORING INSTRUCTION

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Monitoring Instruction and Improving
Students' Evaluations of Teachers' Performance

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Abstract

The purpose of this research was to determine whether the use of (a) multiple in-class, student evaluations of instruction coupled with (b) instructor consultations with students would subsequently alter end-of-term student evaluations of instructional performance. A non-equivalent control group design was used with 18 classes over a period of 2.5 years. Data obtained indicated that the use of multiple evaluations with student consultations resulted in end-of-term evaluations that were uniformly higher in all instructional areas rated. The average effect size associated with the treatment was substantial ($\hat{\Delta} = 1.27$; Glass, McGaw, & Smith, 1981). These results suggest that multiple student evaluations and consultations throughout the term provide a very powerful means of increasing end-of-term evaluations of instruction.

Monitoring Instruction and Improving Students' Evaluations of Teachers' Performance

Empirical research has demonstrated that student evaluations can provide a valid measure of teaching effectiveness (Cohen, 1981; Koon & Murray, 1995; Marsh & Dunkin, 1992; Marsh, Fleiner, & Thomas, 1975; McKeachie, 1979). Researchers have attempted to develop methods for using feedback taken from student evaluations to increase teaching effectiveness. Cohen (1980), L'Hommedieu, Menges, and Brinko (1990), and Marsh, Fleiner, and Thomas (1975) show that when instructors use feedback obtained from midterm evaluations to alter their teaching performance, slight improvements on end-of-term evaluations result. When student feedback from midterm evaluations are combined with consultation with other teachers or instructional experts, end-of-term evaluations often show substantial improvements (Cohen, 1980; L'Hommedieu, Menges, & Brinko, 1990; Marsh & Roche, 1993). The use of student feedback, combined with consultations with experts to improve teaching effectiveness, has become the focus of much research, and, as a result, a number of alternative models of consultation now exist (Brinko, 1990, 1991; Wilson, 1984, 1986).

In almost all circumstances the models of feedback and consultation utilize a single midterm evaluation (Marsh, 1987; Marsh & Dunkin, 1992) and consultation with either teachers or instructional experts. Very few studies have considered the use of (a) feedback from multiple evaluations administered throughout the term or (b) students as consultants. Notable exceptions are studies by Kottke (1984) and Zahn (1993).

Kottke (1984) used a single midterm evaluation and met with a committee of class representatives to determine what students perceived to be her areas of weakness in teaching. She found that students provided both realistic and helpful suggestions for improvement, and she agreed to several changes in her lecture format as a result of her consultations with students (e.g., "to proceed more slowly with complex material, to reiterate major points

several times, to summarize each major section, to list lecture outlines on the blackboard" [p. 118]).

Zahn's (1993) procedure is to obtain written evaluations at the end of every regular class session during the semester from a random sample of 10% of the students in the class. He provides written responses to each student's evaluation and returns the evaluation the next class session. In addition, Zahn summarizes responses on the evaluations into graphs, presents these results at the beginning of the next class session, and also lists problem areas identified by at least 25% of the respondents. Instructor and students discuss possible solutions in class.

The results obtained by Kottke (1984) and Zahn (1993) suggest that multiple evaluations coupled with student consultations would likely result in better end-of-term evaluations. As previously mentioned, most research on improving instruction, and subsequently evaluations, has used a single midterm evaluation in conjunction with consultation with either other teachers or instructional experts. In this study two or more evaluations were administered throughout the term. These evaluations were used to monitor and improve teaching performance, and teacher/student discussions of the evaluations—i.e., consultations—were used to identify solutions to perceived problems. Thus, this study was designed to determine whether the use of multiple evaluations and student consultations would lead to increased teaching effectiveness as evidenced by end-of-term evaluations.

Methods

Sample

The sample for this study consisted of end-of-term evaluations obtained from 18 graduate-level classes (approximately 400 students) taught from the Fall 1992 quarter through the Winter 1995 quarter by the first author. The 18 classes represent three distinct courses: introduction to research methods, introduction to statistics, and field-based research.

The second author collected supplemental data from five courses in educational leadership—introduction to school supervision, administering school personnel, school public

relations, curriculum leadership, and supervisory techniques and practice. These data, obtained from surveys, interviews, and observations, represent students' perceptions of the utility of evaluations and consultations. All data were collected at a medium-sized (enrollment of 14,000), regional university in southeast Georgia.

Instrumentation

Two instruments were used in this study. A simple, easy-to-answer survey, the "Class Assessment Questionnaire" (CAQ), was developed to collect anonymous student input on a session-by-session basis. The CAQ contains six one-sentence statements, each asking students to rate the instructor on a specific aspect of instruction. For example, one statement reads: "The session was well-planned and organized." For each statement a Likert scale was used, with ratings ranging from "1" (strongly disagree) to "5" (strongly agree). The CAQ also poses three open-ended questions to elicit students' narrative reactions and their specific suggestions for achieving a better class: (1) "What did you like least about this class?," (2) "What did you like most about this class?," and (3) "What do you think could be done to improve this class?" Students can complete the CAQ instrument in from one to two minutes. The CAQ used by the first author is presented in Appendix A.

The second instrument employed in the study was a standard student evaluation survey used by the College of Education (COE) of the university at which the authors teach. This instrument includes nine Likert-type items covering a range of topics related to instruction, such as organization, enthusiasm, clarity of presentation, etc. The college requires that this instrument be administered on the last regular class session of each quarter (the session prior to the final examination period). This instrument is presented in Appendix B.

Design and Procedures

A posttest-only, nonequivalent control group design was used, by necessity, in this study. Of the 18 classes involved, 7 were exposed to the treatment (i.e., at least two administrations

of the CAQ and corresponding student consultations [described below]), and 11 classes served as the control group. For consistency, the instructor of the 18 classes attempted to teach the courses in the same manner to the extent possible; i.e., similar notes, handouts, lectures, etc. were used to help maintain adequate internal validity in the experiment.

The treatment, in general, consisted of (a) administering the CAQ at the end of regularly scheduled class sessions (class sessions with scheduled examinations were excluded); (b) summarizing and tallying the responses; and (c) briefly reporting the responses at the beginning of the next regularly scheduled class session. Student/instructor discussions of the responses (i.e., consultations) also occurred during this third phase. During the consultations the students and instructor would negotiate what actions, if any, the instructor should take to address student concerns. All consultations last approximately five minutes.

The following examples illustrate the type of negotiation that occurred in the first author's courses. Frequently students noted on the CAQ that the instructor's delivery of material was too rapid for proper note taking. After instructor/student consultation, the class agreed to inform the instructor when the lecture was proceeding too rapidly. Another concern students expressed on the CAQ was the lack of case studies, scenarios, and examples provided to illustrate various research or statistical topics. After consultations, the instructor agreed to develop case studies and scenarios for many topics covered in the introductory research and statistics courses. In addition, further use of the CAQ and student consultations led to the incorporation of in-class, group work activities with the scenarios. These alterations proved to be popular among the students.

Variables

The experimental independent variable in the study was whether or not the class was exposed to the evaluation/consultation procedure. The outcomes of interest were the end-of-term evaluations as measured by the COE questionnaire. As previously noted, the COE instrument contained nine items designed to measure various aspects of instruction.

Results

Since the COE instrument taps nine aspects of instruction, a multivariate analysis of variance (MANOVA) was used to learn whether the treatment statistically altered student evaluations of teaching effectiveness. Summary statistics for each of the nine items are presented in Table 1. Also presented in Table 1 are estimated treatment effect sizes as measured by Glass' $\hat{\Delta}$ (Glass, McGaw, & Smith, 1981, p. 102).

The results of the MANOVA indicated that at least one of the nine measures of instruction had means that differed between the experimental and control groups (Wilks' $\lambda = 0.19$, $F = 3.75$, $df = 9/8$, $p < .05$). Univariate tests of statistical significance are provided in Table 2. Note that seven of the nine measures show statistical differences between the experimental and control groups, and based on the information provided in Table 1, the means for the experimental groups are uniformly higher; this is to say that more positive evaluations were elicited from the students exposed to the treatment.

The $\hat{\Delta}$ s in Table 1 provide a standardized measure of the evaluation and consultation effect for each of the nine COE measures. The $\hat{\Delta}$ s ranged from a low of 0.79 to a high of 1.56. The average $\hat{\Delta}$ was 1.27 which means that the treatment, on average, corresponded to a difference between the experimental and control groups of over one standard deviation. Those familiar with meta-analyses of effect sizes like $\hat{\Delta}$ will recognize an average effect of one standard deviation represents a substantial difference (e.g., see Cohen, 1988).

Based on interviews and student responses to open-end questions on the COE evaluation for both authors, it appeared that students were very appreciative of (a) the instructors' willingness to solicit criticisms of the instructors' teaching and (b) the instructors' effort to improve the class. Moreover, students' written responses on both the CAQ and COE instrument indicated that they felt empowered by the use of in-class evaluations and consultations; that is, they perceived themselves to be more invested in the class and that their wants and concerns were important to the instructors. Additionally, the students believed they

had the ability to determine or alter, to some extent, the instructional procedures used in the class. The authors noted that even in classes where little change in instruction occurred as a result of the in-class evaluations and consultations, students were still appreciative of the instructors' efforts to include them in classroom teaching decisions, and this appears to have resulted in better overall written evaluations on the COE survey. This may be attributed, at least in part, to a sort of Hawthorne effect in which any treatment that shows concern for and attention to the affected parties yields a positive result (Roethlisberger & Dickson, 1939).

Based upon the second author's courses, it was also observed that where multiple in-class evaluations and consultations were conducted, results appeared to be better than when only a single in-class evaluation and consultation was offered. Two evaluation and consultation sessions appear to accomplish what is intended, one conducted at the end of the second or third class session and one in the first or second session after the midterm point. In this way, students are able to inform the instructor of any changes they believe are called for and the instructor has the time to respond; also, in a second or succeeding evaluation, students can indicate whether appropriate accommodation to their perceived needs has occurred and what, if any, new concerns may have arisen. It is interesting to note, however, that in this study even one in-class evaluation occurring near the end of the quarter, allowing the instructor limited time to respond, generated somewhat higher ratings on the final COE form.

Discussion and Conclusion

Frequently, end-of-term evaluations are used by instructors to determine appropriate course alterations to improve instruction. Unfortunately, such evaluations do not provide immediate feedback, and this precludes the possibility of adjusting instruction to meet current students' needs. The evaluation and consultation strategy outlined above, however, enables instructors to gain access to information regarding students' instructional needs when it can best be used—during the course. Thus, instructors using this strategy will be able to respond to suggestions for improvement and criticisms of their courses without delay. This is important

because many times a problem or need will be unique to a particular class, and an instrument such as the CAQ will enable one to learn of that problem or need. In short, the combination of in-class evaluations and student consultations enables instructors to respond to legitimate student concerns and needs, correct misconceptions, and explain their reasons for some of their actions and approaches about which students have raised a question.

Through the use of in-class evaluations and consultations, the authors learned that some students who have never before had the opportunity to provide formal, confidential, written in-class evaluations to their instructor indicated in their response to the second open-ended question, "What do you like most about this class?," that they were especially grateful to have been asked what they liked about the class and what they think might be done to improve it. Hence, it appears that, at least for many students, the in-class evaluations themselves were worthwhile. That this procedure seems to lead to improved instruction and a number of other benefits are certainly added values.

The following points are noted as a result of student feedback and the authors' classroom observations:

1. When students complete in-class evaluations and consultations, the result is consistently higher item-by-item and overall course evaluations on the required end-of-term COE instrument.
2. Instructors are more aware of specific needs of students and, where appropriate, they are able to respond in time to give students a better course experience.
3. Almost all students respond favorably to the opportunity to give honest feedback during the course when it can be considered to good advantage.
4. Instructors are able to respond to justified criticisms and to elicit feedback regarding the extent to which needed changes are taking place.
5. Instructors are able to clear up misconceptions.
6. Students have a stake in--and share responsibility for--the quality of their class.

7. The awareness level of both students and instructor as to what is good, what needs changing, and why certain approaches are necessary increases when in-class evaluations and consultations are used.
8. The level of informality, congeniality, rapport, humor, and cooperation among students and between the students and the instructor usually appears to increase following the use of an in-class evaluation and consultation, especially when this occurs initially near the beginning of the course; the seriousness of purpose as to the mission, goals, and content of a course in which evaluations and consultations are used is in no way diminished, but there is now an atmosphere of cooperation and even fun experienced by both the instructor and students.
9. The quality of instruction, curriculum, and students' performance in a given course all have the potential to increase as a result of the use of in-class evaluations and consultations.
10. An instructor's overall instructional level, as judged by students, improves; once an instructor has learned how to do something well in one class, he or she will usually be able to continue with the better approach or practice in subsequent classes without the need for further criticism.

To the extent that the findings in this study can be generalized to other instructors, subject areas, and student populations, instructors not now using in-class evaluations and student consultations would be well-advised to consider doing so. If these results generalize, instructors will perform better, students will give them credit for their improved teaching, and both students and instructors will have an enhanced course experience. The authors recommend two or three spaced in-class evaluations and consultations over the course of a quarter or semester, employing a simple, easy-to-administer form appropriate to an instructor's particular needs and situation. Potentially, it seems, the advantages are many, the pitfalls few.

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Table 1

Summary statistics for nine items on the college of education evaluation instrument.

Questionnaire Item	Experiment Group	Control Group	Glass' $\hat{\Delta}$
<u>Planning</u> : The instructor demonstrated strong organizational and planning skills.	4.73* (0.26)	3.82 (0.61)	1.49
<u>Communication</u> : The instructor communicated effectively.	4.34* (0.38)	3.49 (0.59)	1.44
<u>Enthusiasm</u> : The instructor demonstrated enthusiasm.	4.31* (0.37)	3.78 (0.45)	1.18
<u>Knowledge</u> : The instructor demonstrated knowledge of the content.	4.76 (0.19)	4.32 (0.52)	0.85
<u>Time</u> : The instructor managed class time well.	4.47 (0.29)	3.94 (0.67)	0.79
<u>Strategies</u> : The instructor demonstrated a range of teaching strategies.	3.96* (0.43)	3.25 (0.54)	1.31
<u>Expectations</u> : The instructor made his or her expectations clear.	4.56* (0.38)	3.65 (0.63)	1.44
<u>Personable</u> : The instructor demonstrated strong interpersonal skills.	4.43* (0.35)	3.65 (0.50)	1.56
<u>Performance</u> : The instructor demonstrated skill in evaluating student performance.	4.54* (0.37)	3.84 (0.50)	1.40

Note. The numbers above the parentheses are means and the numbers in parentheses are standard deviations. Glass' $\hat{\Delta}$ is defined as $(M_{\text{experimental}} - M_{\text{control}})/SD_{\text{control}}$ (Glass, McGaw, & Smith, 1981, p. 102). An * denotes statistically significant differences between experimental and control means at the .05 level.

Table 2

Multivariate analysis of variance with nine college of education measures of instruction as the dependent set.

COE Questionnaire Item (Variable)	MS Between Groups	Univariate F ^a	p <	SDFC
<u>Planning</u>	3.54	13.67	.002	-4.04
<u>Communication</u>	3.10	11.33	.004	2.71
<u>Enthusiasm</u>	1.21	6.77	.019	-0.30
<u>Knowledge</u>	0.82	4.46	.051	1.27
<u>Time</u>	1.22	3.94	.065	2.11
<u>Strategies</u>	2.11	8.44	.010	-0.97
<u>Expectations</u>	3.49	11.42	.004	0.75
<u>Personable</u>	2.56	12.57	.003	-0.79
<u>Performance</u>	2.14	10.34	.005	-1.67

Note. SDFC is the standardized discriminate function coefficient. Multivariate F = 3.75, df = 9/8, p < .05.

^adf = 1/16.

Appendix A
Class Assessment Questionnaire

Instructions: Please circle the number which best represents your opinion on the statements below. All statements refer to the class session just completed.

	Strongly Disagree				Strongly Agree
(1) The instructor was knowledgeable in the subject matter presented in this session.	1	2	3	4	5
(2) The instructor encouraged class participation during this session.	1	2	3	4	5
(3) The instructor communicated and presented the material well in this session.	1	2	3	4	5
(4) The instructor covered about the right amount of material in this session.	1	2	3	4	5
(5) The instructor presented the material at a good pace (neither too fast nor too slowly).	1	2	3	4	5
(6) The session was well planned and organized.	1	2	3	4	5

Instructions: Please write in the space below each question. Your responses will be used to improve class, so please try to provide constructive comments, although all comments are welcome.

- (7) What did you like least about this class session?
- (8) What did you like most about this class session?
- (9) What, if anything, could be done to improve this class?

Appendix B

College of Education Questionnaire

	Deficient		Average		Excellent
<u>Planning</u> : The instructor demonstrated strong organizational and planning skills.	1	2	3	4	5
<u>Communication</u> : The instructor communicated effectively.	1	2	3	4	5
<u>Enthusiasm</u> : The instructor demonstrated enthusiasm.	1	2	3	4	5
<u>Knowledge</u> : The instructor demonstrated knowledge of the content.	1	2	3	4	5
<u>Time</u> : The instructor managed class time well.	1	2	3	4	5
<u>Strategies</u> : The instructor demonstrated a range of teaching strategies.	1	2	3	4	5
<u>Expectations</u> : The instructor made his or her expectations clear.	1	2	3	4	5
<u>Personable</u> : The instructor demonstrated strong interpersonal skills.	1	2	3	4	5
<u>Performance</u> : The instructor demonstrated skill in evaluating student performance.	1	2	3	4	5